

Appl. No. 09/843,866
Amdt. dated November 25, 2003
Reply to Office action of May 27, 2003

REMARKS

An Information Disclosure Statement and accompanying Form PTO-1449 are resubmitted concurrently herewith. The Disclosure Statement was originally mailed in December 2001. At that time, the Office was irradiating all incoming mail, and in so doing the Office obliterated the address label. When returned as undeliverable, the paper was inadvertently returned to the file without resubmission. Applicant apologizes for the inadvertent failure to resubmit the Disclosure Statement when it was originally returned.

Claims 1-13 stand rejected. Specifically, Claims 1-6 were rejected under 35 USC §103 as being unpatentable over Ohsawa U.S. Patent No. 5,530,780 in view of Appeldorn et al. U.S. Patent No. 5,432,876. Claims 7-13 were rejected under 35 USC §103 as being unpatentable over Ohsawa U.S. Patent No. 5,530,780 in view of Appeldorn et al. U.S. Patent No. 5,432,876 and further in view of Zamja et al. U.S. Patent No. 4,195,907. Independent Claims 1, 2 and 7 are amended. Claim 3 is canceled. Dependency of the defendant claims is altered to correspond to the new claim arrangement. As amended, the Claims are believed to distinguish over the art of record, whether that art is considered singly or in combination.

Appeldorn, primarily relied upon in the context of the original Claims, states in Column 4, lines 43 through 48, that "The optical elements may be produced by any desirable means for forming an interruption or discontinuity in the fiber in a controlled manner, including, but not limited to, stamping, embossing or otherwise

indenting the fiber, cutting or slitting the fiber, cracking the fiber etc." As best Applicant can determine, this is the only mention of cracking in entire Appeldorn specification. It is respectfully suggested there is good reason for this lack of disclosure, because Appeldorn is concerned with the "... appropriate control of the morphology of each optical element, e. g., the angle, curvature and cross-sectional area of the reflecting surface(s), as well as the pattern and spacing of the elements along the fiber, [so] light can be selectively emitted through the **side wall** of the fiber. (See, for example, Appeldorn, column 3, lines of 50 through 56.)(Emphasis supplied).

Ohsawa and Zamja et al likewise are deficient. Ohsawa, while showing a tip, teaches away from Applicant's invention in that the specification specifically states at column 1 line 34 that "In case a pulse wave laser beam is used, an end tip formed of an inorganic material ...tends to be easily cracked and broken, which is dangerous when the concentration and high densification of shock waves generated from a pulse laser occur." Zamja, like Ohsawa, is concerned with the construction of a side wall light emitting device. Zamja, however, employs bubbles to disperse light through the side wall of the fiber. It is respectfully suggested that nothing in the references relied upon by the Examiner shows or suggests Applicant's invention as now claimed.

Applicant's invention is different. Specifically, Claim 1 defines an optical fiber having a first and second ends, and requires a diffuser formed in the second the

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optical fiber for emitting light along that end, not along the side walls of the fiber. In addition, the Claim requires the optical fiber to have longitudinal axis, and a requires the diffuser to have a plurality of cracks formed it, the cracks being arranged generally parallel to the longitudinal axis of the optical fiber. None of the art relied upon by the examiner, shows a similar structure. It is therefore, respectfully submitted that claim 1 is allowable over the art of record.

Claim 2 again requires a light diffuser incorporated into at least one end of the optical fiber. Claim 2 further requires a plurality of cracks formed along the fiber end to provide a homogeneous output pattern having a total illumination angle of at least 180°. None of the art relied upon by the examiner shows similar structure. It is therefore, respectfully submitted that Claim 2 is allowable over the art of record.

Claim 3 is cancelled.

Claims 4 through 6 all are dependent upon claim 2 and are allowable for at least the same reasons that the independent claim from which they depend is allowable.

Claim 7, is a method claim for constructing the light diffuser of the present invention. It to requires forming a plurality of substantially longitudinal cracks such that the tip of the optical fiber defuses the light exiting from the fiber to provide a homogeneous output pattern. The pattern is generated from a tip having an outer diameter that is no greater than the diameter of the optical fiber. None of the art

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relied upon by the Examiner shows a similar method, and none of the art provides a similar result.

Claims 8 through 13 all are dependent on claim 7 and these claims are allowable with the base claim.

For the reason that the claims as amended are not shown, describe, all are even vaguely intimated by the art of record, whether that art is considered singly or in combination, re-examination of the case, allowance of the claims and passage of the case to issue are respectfully requested.

Respectfully submitted,



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